AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for the replication of a nucleic acid template comprising:

providing a primer being bonded to a carrier macromolecule having a molecular weight in excess of 80,000 Daltons;

hybridizing the bound primer to said template; and

extending said primer to form an extended primer which replicates from said template ~~in complementary form~~,

wherein said carrier macromolecule is ~~a natural or synthetic polysaccharide, a homopolyamino acid, or a synthetic polymer having nucleophilic functional groups~~ water soluble at a temperature in the range of 0-60°C.

2. (Cancelled)

3. (Currently Amended) A process for the replication of a nucleic acid template comprising:

providing a primer being bonded to a carrier macromolecule having a molecular weight in excess of 80,000 Daltons;

hybridizing the bound primer to said template; and

extending said primer to form an extended primer which replicates from said template ~~in complementary form~~,

wherein said carrier macromolecule is ~~a dextran, a starch, an hydroxyethyl starch, an hydroxypropyl starch, a glycogen, an agarose derivative or cellulose derivative, or~~ a natural gum or a homopolyamino acid.

4. (Previously Presented) A process as claimed in claim 3, wherein the carrier macromolecule in its free state is substantially linear and substantially uncharged at a pH in the range of 4 to 10.

5. (Previously Presented) A process as claimed in claim 4, wherein said carrier molecule has a peak molecular weight in the range of in excess of 80,000 to 4,000,000 Daltons.

6. (Previously Presented) A process as claimed in claim 5, wherein said carrier macromolecule is water soluble.

7. (Currently Amended) A process as claimed in claim 6, wherein said primer is bound to said carrier macromolecule via one or more moieties derived from divinyl sulphone, wherein

~~each of which~~ at least one of the moieties is attached to ~~each of~~ the carrier macromolecule ~~and the primer~~ by a covalent linkage formed between ~~on~~ one of the two vinyl groups of a divinyl sulphone molecule of the at least one moiety and a reactive functionality on the carrier macromolecule ~~or primer~~, and

at least one of the moieties is attached to the primer by a covalent linkage formed between one of the two vinyl groups of a divinyl sulphone molecule of the at least one moiety and a reactive functionality on the primer.

8. (Currently Amended) A process as claimed in claim 7, wherein said primer is extended by ~~the action of~~ a polymerase wherein said polymerase ~~incorporating~~ incorporates nucleotides ~~on to~~ into said primer.

9. (Currently Amended) A process as clamed in claim 7, wherein said primer is extended in a polymerase chain reaction (pcr), strand displacement amplification (sda), self-sustained sequence replication (~~3sr~~ ssr) or nucleic acid sequence-based amplification (nasba) amplification procedure.

10. (Previously Presented) A process as claimed in claim 7, wherein said primer is extended by the action of a ligase ligating said primer to at least one another primer hybridised to said template.

11. (Currently Amended) A process as claimed in claim 7, wherein said template is a double stranded template and is denatured to a single stranded form, said carrier macromolecule-bound primer is complementary in sequence to a region of ~~a first~~ one of the template strands and a second primer is provided which is complementary in sequence to a region of the other strand, which second primer is also extended so as to form a complementary sequence copy of said template second strand.

12. (Previously Presented) A process as claimed in claim 10, wherein said carrier macromolecule is bound to a solid support.

13. (Currently Amended) A process as claimed in claim 8, further comprising using a second primer wherein ~~a~~ said second primer is extended in said amplification procedure which is also bound to a carrier macromolecule.

14. (Currently Amended) A process as claimed in claim 10, wherein said another primer which is ligated by said ligase is also bound to a carrier macromolecule.

15. (Currently Amended) A process as claimed in claim 14, wherein during the extension ~~of a said primer~~, a detectable marker is incorporated into one of the extended ~~primer~~ primers.

16. (Currently Amended) A process as claimed in claim 15, wherein said extension of one of the ~~primer~~ primers is conducted *in situ* in a biological sample.

17. (Previously Presented) A process as claimed in claim 16, wherein said biological sample is a plant or animal tissue sample, microorganism culture, or microorganism culture medium.

18. (Currently Amended) A method of detecting the presence of a nucleic acid bound to a non-nucleotide carrier macromolecule comprising:

providing a first nucleic acid bound to a non-nucleotide carrier macromolecule having a molecular weight in excess of 80,000 Daltons;

providing a second nucleic acid bound to a non-nucleotide carrier macromolecule having a molecular weight in excess of 80,000 Daltons;

contacting said first and second nucleic acids under hybridization conditions; and

detecting hybridization between said first and second nucleic acids.

19. (Previously Presented) A method of detecting the presence of a nucleic acid template sequence comprising replicating the template by a method as claimed in claim 17 to produce replicated template bound to a said carrier macromolecule and detecting the presence of said replicated template bound to the carrier macromolecule by a method as claimed in claim 18.

20. (Currently Amended) A method of detecting a nucleic acid sequence comprising making a probe for detecting said sequence by using said sequence as a template sequence in a method as claimed in claim 17 such that a probe comprises said extended primer that has ~~having~~ a sequence complementary to said sequence to be detected is bound to said carrier macromolecule, removing any free nucleic acid not bound to said carrier macromolecule therefrom, and using the probe to detect the nucleic acid sequence in a sample by hybridization thereto.

21. (Currently Amended) An immobilized nucleic acid comprising a nucleic acid linked via a covalent bond to a non-nucleotide carrier macromolecule having a molecular weight in excess of 80,000 Daltons, which ~~the~~ non-nucleotide carrier macromolecule is directly bound to a solid support.

22. (Currently Amended) A method of using the immobilized nucleic acid as claimed in claim 21 comprising:

formulating the immobilized nucleic acid as a primer or as a hybridization probe and introducing the immobilized nucleic acid into a hybridization or amplification reaction utilizing ~~a~~ the primer or ~~a~~ the hybridization probe.

Please add the following new claim 23.

23. (New) A process for the replication of a nucleic acid template comprising:

providing a primer being bonded to a carrier macromolecule having a molecular weight in excess of 80,000 Daltons;

hybridizing the bound primer to said template; and

extending said primer to form an extended primer which replicates from said template,

wherein said primer is bound to said carrier macromolecule via one or more moieties derived from divinyl sulphone,

at least one of the moieties is attached to the carrier macromolecule by a covalent linkage formed between one of the two vinyl groups of a divinyl sulphone molecule of the at least one moiety and a reactive functionality on the carrier macromolecule, and

at least one of the moieties is attached to the primer by a covalent linkage formed between one of the two vinyl groups of a divinyl sulphone molecule of the at least one moiety and a reactive functionality on the primer.